

## 1 WHAT IS CLAIMED IS:

- 1 1. A disk drive, comprising:
  - 2 a disk;
  - 3 a single supply of voltage;
  - 4 a head stack assembly for reading and writing to the disk, including:
    - 5 a body portion;
    - 6 an actuator arm cantilevered from the body portion;
    - 7 a coil portion cantilevered from the body portion in an opposite direction from the
    - 8 actuator arm, the coil portion including a coil assembly having a first wound coil and a second
    - 9 wound coil, the first coil defining a first pair of coil leads and the second wound coil defining a
    - 10 second pair of coil leads, and
  - 11 a switching circuit electrically coupled to the single supply of voltage and to the first and
  - 12 second pairs of coil leads, the switching circuit being configured to selectively switch the first
  - 13 and second wound coils between a first configuration and a second configuration in which the
  - 14 first wound coil is electrically in parallel with the second wound coil, the second configuration
  - 15 being different from the first configuration.
- 1 2. The disk drive of claim 1, wherein in the first configuration, the first wound coil
- 2 is electrically in series with the second wound coil.
- 1 3. The disk drive of claim 1, wherein in the first configuration, the first wound coil
- 2 is electrically disconnected from the second wound coil.

1           4.       The disk drive of claim 1, wherein the first wound coil and the second wound coil  
2 are both formed of wire having a same gauge.

1           5.       The disk drive of claim 1, wherein the first wound coil and the second wound coil  
2 are each formed of wire having a different gauge.

1           6.       The disk drive of claim 1, wherein the first wound coil and the second wound coil  
2 are both formed of a same number of coil turns.

1           7.       The disk drive of claim 1, wherein the first wound coil and the second wound coil  
2 are each formed of a different number of coil turns.

1           8.       The disk drive of claim 1, wherein the first wound coil and the second wound coil  
2 have substantially a same resistance.

1           9.       The disk drive of claim 1, wherein each of the first wound coil and the second  
2 wound coil has a different resistance.

1           10.      The disk drive of claim 1, wherein the coil assembly is configured to be supplied  
2 with a constant voltage and with a first current of a first magnitude when the switching circuit  
3 switches the first and second wound coils into the first configuration and a second current of a  
4 second magnitude when the switching circuit switches the first and second wound coils into the  
5 second configuration, the second magnitude being greater than the first magnitude.

1           11.      The disk drive of claim 10, wherein the switching circuit is configured to switch  
2 the first and second wound coils into the second configuration only during selected seek  
3 operations.

1           12.     The disk drive of claim 10, wherein the switching circuit is configured to switch  
2 the first and second wound coils into the second configuration for a time period that is controlled  
3 such that a temperature of the coil assembly does not exceed a predetermined threshold.

1           13.     The disk drive of claim 1, wherein the first and second wound coils are adhesively  
2 attached to one another.

1           14.     The disk drive of claim 1, wherein the first pair of coil leads includes a first coil  
2 lead and a second coil lead, the second pair of coil leads includes a third coil lead and a fourth  
3 coil lead, and the disk drive further comprises a first flex circuit including a first flex circuit lead,  
4 a second flex circuit lead, a third flex circuit lead and a fourth flex circuit lead, and wherein the  
5 switching circuit selectively connects the first coil lead to the first flex circuit lead, selectively  
6 connects the second coil lead to the second flex circuit lead, selectively connects the third coil  
7 lead to the third flex circuit lead and selectively connects the fourth coil lead to the fourth flex  
8 circuit lead.

1           15.     The disk drive of claim 1, wherein the switching circuit is configured to cause the  
2 coil assembly to exert a first maximum torque on the head stack assembly when the first and  
3 second wound coils are switched to the first configuration and wherein the switching circuit is  
4 configured to cause the coil assembly to exert a second maximum torque on the head stack  
5 assembly when the coil assembly is in the second configuration, the second maximum torque  
6 being greater than the first maximum torque.

1       16. A head stack assembly for a disk drive, comprising:

2           a body portion;

3           an actuator arm cantilevered from the body portion;

4           a coil portion cantilevered from the body portion in an opposite direction from the  
5       actuator arm, the coil portion including a coil assembly having a first wound coil and a second  
6       wound coil, the first coil defining a first pair of coil leads and the second wound coil defining a  
7       second pair of coil leads, and

8           a switching circuit that is configured to be electrically coupled to a single supply of  
9       voltage and to the first and second pairs of coil leads, the switching circuit being configured to  
10      selectively switch the first and second wound coils between a first configuration and a second  
11      configuration in which the first wound coil is electrically in parallel with the second wound coil,  
12      the second configuration being different from the first configuration.

1       17. The head stack assembly of claim 16, wherein in the first configuration, the first

2       wound coil is electrically in series with the second wound coil.

1       18. The head stack assembly of claim 16, wherein in the first configuration, the first

2       wound coil is electrically disconnected from the second wound coil.

1       19. The head stack assembly of claim 16, wherein the first wound coil and the second

2       wound coil are both formed of wire having a same gauge.

1       20. The head stack assembly of claim 16, wherein each of the first wound coil and the

2       second wound coil is formed of wire having a different gauge.

1           21.     The head stack assembly of claim 16, wherein the first wound coil and the second  
2 wound coil are both formed of a same number of coil turns.

1           22.     The head stack assembly of claim 16, wherein each of the first wound coil and the  
2 second wound coil is formed of a different number of coil turns.

1           23.     The head stack assembly of claim 16, wherein the first wound coil and the second  
2 wound coil have substantially a same resistance.

1           24.     The head stack assembly of claim 16, wherein each of the first wound coil and the  
2 second wound coil has a different resistance.

1           25.     The head stack assembly of claim 16, wherein the coil assembly is configured to  
2 be supplied with a constant voltage and with a first current of a first magnitude when the  
3 switching circuit switches the first and second wound coils into the first configuration and a  
4 second current of a second magnitude when the switching circuit switches the first and second  
5 wound coils into the second configuration, the second magnitude being greater than the first  
6 magnitude.

1           26.     The head stack assembly of claim 16, wherein the first and second wound coils  
2 are adhesively attached to one another.